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(b) exposing said [labelled] labeled detector molecules to said biopolymers under conditions permitting bonding reactions to occur to form bondings between said [labelled] labeled detector molecules and said biopolymers; and

(c) evaluating said bondings via said different labels, said evaluating comprising detecting the presence and intensity of labeled detector molecules at selected regions of said biopolymers whereby [changes in] differences between said biopolymers may be identified

A13
3. (Amended) The method according to claim 2, wherein said biopolymers are [fixedly arranged] immobilized on a carrier or in a matrix.

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4. (Amended) The method according to claim 1, wherein said bonding reactions between each of said [labelled] labeled detector molecules and said biopolymer are carried out simultaneously or successively.

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10. (Amended) The method according to claim 1, wherein the [labelled] labeled detector molecules are nucleic acids or antibodies.

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11. (Amended) The method according to claim 10, wherein said different nucleic acids [stem] are selected from different chromosome region-specific DNA libraries.

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12. (Amended) The method according to claim 10, wherein each of said sets of [labelled] labeled detector molecules contains one or more labels different from at least one label contained in another of said sets.

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14. (Amended) The method according to claim 1, wherein said evaluating step further comprises the steps:

scanning said biopolymers with a scanning device in the longitudinal direction of said biopolymers; and

Ad ~~recording the intensities or intensity ratios of said labels of said [labelled] labeled~~
detector molecules.

17. (Amended) The method according to claim 1, wherein said step of providing different sets of [labelled] labeled detector molecules further comprises providing at least one set of a localized calibrating probe, said probe comprising calibrating labels.

18. (Amended) The method according to claim 17, wherein said calibrating labels comprise all of said labels of said [labelled] labeled detector molecules of said at least two sets.

As 19. (Amended) The method according to claim 1, wherein said step of providing different sets of [labelled] labeled detector molecules further comprises providing a number of localized calibrating probes, said number being one less than the total number of said labels in said [labelled] labeled detector molecules, each of said probes comprising two labels; and said evaluating step further [comprising] comprises correcting positional deviations of said bondings by pairwise comparison of said calibrating probes.

20. (Amended) The method according to claim 17, wherein [positional transformations of said bondings are corrected by using a sufficient number of said probes] said step of providing different sets of labeled detector molecules further comprises providing a plurality of said calibrating probes; and said evaluating step further comprises correcting positional transformations of said bondings by comparison of said calibrating probes.

21. (Amended) The method according to claim 17, wherein [determination of the relative shifts and positional correction of said bondings takes place interactively during said step of evaluating] said evaluating steps further comprises forming images of said biopolymers; and aligning said images with respect to said bondings, thereby providing positional correction for said bondings.

22. (Amended) The method according to claim [17] 21, wherein [determination of the